BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of Petition of WorldCom, Inc., Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc., and for Expedited Arbitration	)	CC Docket No. 00-218
In the Matter of Petition of AT&T Communications of Virginia, Inc., Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia Corporation Commission Regarding Interconnection Disputes with Verizon Virginia, Inc.	)	CC Docket No. 00-251

TESTIMONY OF
TERRY L. MURRAY, JOSEPH P. RIOLO, AND RICHARD J. WALSH
IN SUPPORT OF COMPLIANCE FILING OF
AT&T AND WORLDCOM, INC. D/B/A MCI

October 28, 2003

TABLE OF CONTENTS

I. INTRODUCTION

Q. MS. MURRAY, PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS?

A. My name is Terry L. Murray. I am President of the consulting firm Murray & Cratty, LLC. My business address is 8627 Thors Bay Road, El Cerrito, CA 94530.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN THIS PROCEEDING?

A. In this proceeding, I filed direct, reply, and surrebuttal testimony on behalf of AT&T Communications of Virginia, Inc. ("AT&T") and WorldCom, Inc.[1] I presented testimony on economic and policy issues individually and, as a member of panels, on recurring cost issues and non-recurring cost and advanced data services issues.

My curriculum vitae, which was appended as Attachment TLM-1 to my direct testimony (AT&T/WorldCom Ex. 8), provides more detail concerning my qualifications and experience.

---

[1] This testimony is presented on behalf of AT&T Communications of Virginia, Inc., TCG Virginia, Inc., ACC National Telecom Corp., MediaOne of Virginia and MediaOne Telecommunications of Virginia, Inc. (together, "AT&T") and WorldCom, Inc. d/b/a MCI ("MCI").

Q. MR. RIOLO, PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.

A. My name is Joseph P. Riolo. I am an independent telecommunications consultant. My business address is 102 Roosevelt Drive, East Norwich, NY 11732.

Q. MR. RIOLO, HAVE YOU PREVIOUSLY TESTIFIED IN THIS PROCEEDING?

A. Yes, I filed direct, reply, and surrebuttal testimony on behalf of AT&T and WorldCom, Inc. I presented testimony individually and as a member of panels on recurring cost issues and non-recurring cost and advanced data services issues. My qualifications were included as Exhibit JPR-1 to my direct testimony (AT&T/WorldCom Ex. 6).

Q. MR.WALSH, PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.

A. My name is Richard J. Walsh. I am an independent telecommunications consultant. My business address is 3577 Conroy Road, Unit 316, Orlando, FL, 32839.

Q. MR. WALSH, HAVE YOU PREVIOUSLY TESTIFIED IN THIS PROCEEDING?

A. Yes, I filed direct, reply, and surrebuttal testimony on behalf of AT&T and WorldCom, Inc. I presented testimony individually and as a member of the panels on non-recurring cost and advanced data services issues. My qualifications were included with my direct testimony (AT&T/WorldCom Ex. 2).

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. AT&T and MCI have asked us to explain the additional non-recurring costs ("NRCs") required by ¶ 696 of the *Order* and to address the issue of potential cost sharing arrangements for loop conditioning non-recurring charges.

II. ADDITIONAL NON-RECURRING COSTS REQUIRED BY THE BUREAU'S AUGUST 29, 2003 *ORDER*

Q. HAVE YOU PREPARED A COMPLIANCE FILING IN ACCORDANCE WITH ¶ 696 OF THE ORDER?

A. Yes. The *Order* directs AT&T/MCI to generate non-recurring costs using their Non-Recurring Cost Model ("NRCM")[2] for the following additional unbundled network elements: Manual Loop Qualification (*Order* at ¶ 618), Engineering Query (*Order* at ¶ 618), Load Coil Removal (*Order* at ¶ 639 and ¶ 641), Bridged Tap Removal (*Order* at ¶ 639 and ¶ 641), Engineering Work Order (*Order* at ¶643), and Line Sharing (*Order* at ¶ 648). We have calculated costs in a manner that complies with the *Order*.

Nonetheless, we cannot endorse these costs as being TELRIC-compliant because we continue to believe, and AT&T and MCI continue to maintain, that the identification of non-recurring costs for conditioning loops, manual loop

---

[2] The NRCM sponsored by AT&T and WorldCom, Inc. in this proceeding was submitted as AT&T/WorldCom Ex. 23, Vol. 2. The NRCM modified in accordance with ¶ 696 and submitted with this compliance filing as Exhibit 2 is identified as the AT&T/MCI FCC Compliance Filing Non-Recurring Cost Model 2.2-VA-FCC and referred to herein as the "Compliance NRCM."

qualification and engineering queries is inconsistent with the TELRIC methodology.[3]

In addition, to comport with ¶ 601 of the *Order*, the Compliance NRCM was rerun with the copper loop percentage set at 100%.

The *Order* also directs the parties to negotiate further the NRCs for 4-wire loops, DS1 loops, DS3 loops and interoffice transport. (*Order* at ¶ 593.) AT&T has attempted to initiate negotiation, but as of the date of this filing, no substantive discussions have occurred. These NRCs are subject to the conditions in ¶ 593 of the *Order*.

The development of each additional element for this compliance filing is described below. Exhibit 1 shows the additional NRCs, and detailed assumptions for each. Exhibit 2 is the Compliance NRCM with the additional NRCs included. Exhibit 3 is a summary of the Compliance NRCs.

Q. HOW WERE THE ADDITIONAL NRCS DEVELOPED?

A. Each of the additional NRCs is addressed below.

Manual Loop Qualification

AT&T/MCI have developed costs for the Manual Loop Qualification element based on the tasks and average total task time that we presented in the

---

[3] *See e.g.*, AT&T/WorldCom Ex. 13P (Panel Reply on Non-Recurring Costs and Advanced Data Services) ("AT&T/Worldcom NRC Panel Reply") at 147-152 and 161-167.

AT&T/WorldCom NRC Panel Reply at 168. The detailed assumptions for this element are presented in Exhibits 1 and 2.

Engineering Query

AT&T/MCI have developed costs for the Engineering Query element based on the tasks and average total task time we presented in the AT&T/WorldCom NRC Panel Reply at 168. The detailed assumptions for this element are presented in Exhibits 1 and 2.

Load Coil Removal on Loops over 18,000 Feet

AT&T/MCI have developed costs for the Load Coil Removal element[4] based on the assumptions described in Attachment A[5] to AT&T/WorldCom NRC Panel Reply at ¶ 11. This testimony explained that an all-copper voice-grade loop that is greater than 18,000 feet would have load coils deployed at three locations, the first two of which would likely be underground. The analysis assumed that the third location will be on aerial cable half of the time (*i.e.*, 50% probability) and on buried cable the other half of the time. The tables in AT&T/WorldCom NRC Panel Reply Attachment A ¶ 11 reflect the assumption that underground work would require two technicians, whereas aerial or buried work would only require one.

---

[4] This charge only applies to load coil removal from loops that are greater than 18,000 feet in length. *Order* at ¶ 640.

[5] This Attachment was inadvertently labeled as "Attachment 1," as well.

AT&T/WorldCom NRC Panel Reply Attachment A also provided a list of tasks and task times for load coil removal on loops of over 18,000 feet. This set of assumptions was premised on the conditioning of multiple loops at the same time. Because the Bureau directed "parties to assume conditioning of one loop at a time" (*Order* at ¶ 641), we have removed the steps that no longer pertain.[6] In addition, this change in assumption requires adjustment of several of the task times. To reflect the conditioning of only one loop at a time, task times should be reduced for the steps relating to identifying the pairs to be deloaded, severing the connection, and splicing the pair.[7] To be conservative, however, we have relied on the task times already on the record in this proceeding. Therefore, the non-recurring cost that we have calculated for this compliance filing is conservatively high.

The detailed assumptions we have used to develop the compliance-filing costs for this element are presented in Exhibits 1 and 2 to this testimony.

---

[6] Referring to AT&T/WorldCom NRC Panel Reply, Attachment A, ¶ 11, we removed Steps 7 and 10-15 from the "Underground" table, Steps 6 and 9-14 from the "Aerial" table, and Steps 6 and 9-14 from the "Buried" table.

[7] Referring to AT&T/WorldCom NRC Panel Reply Attachment A, ¶ 11, times should be adjusted downward for Steps 6, 8, and 9 in the "Underground" table, Steps 5, 7, and 8 in the "Aerial" table, and Steps 5, 7, and 8 from the "Buried" table. Exhibit 1 shows the adjusted times for comparison.

Bridged Tap Removal - Single Occurrence

AT&T/MCI have developed costs for the Bridged Tap Removal element[8] based on the assumptions laid out in Attachment A to AT&T/WorldCom NRC Panel Reply at ¶ 12. That testimony explained that bridged tap should not exist in underground feeder cable close to the central office. Therefore, it assumed that the bridged tap would occur at an aerial location half of the time (*i.e.*, 50% probability) and at a buried location the other half of the time. The tables in AT&T/WorldCom NRC Panel Reply Attachment A ¶ 12 reflect the assumption that aerial or buried work would require one technician.

AT&T/WorldCom NRC Panel Reply Attachment A also provided a list of tasks and task times for bridged tap removal. This set of assumptions was premised on the conditioning of multiple loops at the same time. Because the Bureau directed us "to estimate this cost assuming conditioning of one loop at a time" (*Order* at ¶ 642), we have removed the steps that no longer pertain.[9] In addition, this change in assumption requires adjustment of several of the task times. To reflect the conditioning of only one loop at a time, task times should be reduced for the steps

---

[8] This charge only applies when the total amount of bridged tap does not exceed 2,500 feet, with no single tap longer than 2,000 feet. *Order* at ¶ 642.

[9] Referring to AT&T/WorldCom NRC Panel Reply Attachment A, ¶ 12, we removed Steps 7-8 from the "Aerial" table and Steps 6-7 from the "Buried" table.

relating to identifying the pairs to be conditioned and splicing the pair.[10] To be conservative, however, we have relied on the task times already in the record in this proceeding. Therefore, the non-recurring cost that we have calculated for this compliance filing is conservatively high.

The detailed assumptions for this element are presented in Exhibits 1 and 2.

Engineering Work Order

AT&T/MCI have developed costs for the Engineering Work Order element[11] based on the forward-looking assumptions laid out in Attachment A to AT&T/WorldCom NRC Panel Reply at ¶ 24. (Paragraphs 25 through 48 to the AT&T/WorldCom NRC Panel Reply Attachment A provide further detailed support.)

AT&T/WorldCom NRC Panel Reply Attachment A provided a list of tasks and task times for an engineering work order. Because the Bureau directed us to assume conditioning of one loop at a time (*Order* at ¶¶ 641-642), we incorporated this assumption into the analysis.

The detailed assumptions for this element are presented in Exhibits 1 and 2.

---

[10] Referring to AT&T/WorldCom NRC Panel Reply Attachment A, ¶ 12, times should be adjusted downward for Steps 5-6 in the "Aerial" table and Steps 4-5 from the "Buried" table. Exhibit 1 shows the adjusted times for comparison.

[11] This charge only applies once per conditioning service order. *Order* at ¶ 643.

Line Sharing

AT&T/MCI have developed costs for the Line Sharing per-line connect and disconnect charges based on the Compliance NRCM's assumptions for the efficient ordering of a two-wire loop and the line sharing assumptions presented in the AT&T/WorldCom NRC Panel Reply. Line sharing requires the placement of two jumpers in the central office (*i.e.*, the running of an additional jumper as compared to a two-wire loop) and the removal of one jumper. (AT&T/WorldCom NRC Panel Reply at 119.) Likewise, line sharing disconnect requires the removal of two jumpers and the placement of one jumper.

The detailed assumptions for this element are presented in Exhibits 1 and 2.

III. COST SHARING ARRANGMENT FOR CONDITIONING CHARGES

Q. WHAT DID THE *ORDER* DIRECT ON THIS ISSUE?

A. The Bureau's *Order* allows Verizon to recover loop conditioning costs from competitors through non-recurring charges.[12] The Bureau acknowledged, however, that these non-recurring charges would pay for loop conditioning that might benefit the future users of the loop. To address this situation, the Bureau directed parties to propose a cost sharing arrangement:

> Finally, we note that paragraph 751 of the *Local Competition First Report and Order* requires a

[12] AT&T and WorldCom argued against such charges. (*See e.g.*, AT&T/WorldCom NRC Panel Reply at 147-152). The Bureau acknowledged that these arguments "highlight a possible tension between our TELRIC pricing rules." *Order* at ¶ 639.

> rebate or other cost sharing arrangement where, as here, Verizon performs and charges for non-recurring activities that may in the future benefit other competitive LECs, or Verizon's own xDSL service. Given the churn for this type of service, we find such subsequent benefits likely to occur. Although neither party proposed a method to implement such cost sharing, we direct the parties to do so in their compliance filings.[13]

Q. IS A COST SHARING ARRANGEMENT NEEDED?

A. We agree with the Bureau's assessment that non-recurring conditioning charges may lead to one competitor paying for functionality that will benefit future users, with Verizon's own DSL service being among the primary beneficiaries. Ms. Murray noted in her direct testimony that "[i]f the first telecommunications provider to use the facility bears all the forward-looking costs of a one-time activity benefiting multiple users, then obviously the first user will be forced to pay more than its fair share."[14] This reasoning, in part, led to the reusability test that we advocated be used in determining which costs should be considered "recurring" versus "non-recurring."

Yet, although we appreciate the Bureau's objective of fair cost allocation, designing a workable arrangement to recapture previously paid non-recurring charges is non-trivial. We see any number of difficult questions in devising a fair approach. First, any refund mechanism requires the definition of what would constitute a "benefit" for a future user. Would this "benefit" only apply if a

---

[13] *Order* at ¶ 644 (footnotes omitted).

carrier were to provide DSL service over that loop immediately after the first carrier terminated its DSL service, or would a carrier providing DSL over the loop three months later still be deemed to benefit from the first carrier's "investment" in conditioning? Would the cost sharing arrangement be in effect for only the next carrier to provide DSL over the loop, or would subsequent carriers also be deemed to benefit and therefore be required to bear a portion of the cost? At what point, if any, in the future would carriers no longer be deemed to benefit from the original conditioning activity? Would carriers providing services other than DSL (*e.g.*, ISDN or even dial-up Internet service over a long loop) be deemed to benefit from the loop conditioning?

Second, a cost sharing arrangement requires an appropriate allocation of the costs. Would costs be allocated based on the number of carriers to benefit[15] or based on some measurement of how much each carrier benefited (*e.g.*, the duration of the carrier's provision of DSL service over that loop)?[16]

---

[14] Murray Direct at 30-31.

[15] For example, assume that each subsequent carrier pays for its share of the conditioning cost based on the number of carriers to benefit. Carrier A pays initially to condition a loop and then loses the customer to Carrier B. Carrier B provides DSL over that same loop. Carrier B reimburses Carrier A for half the cost of conditioning and then itself loses the customer to Carrier C, which also provides DSL. Carrier C would then reimburse Carrier A one sixth of the cost and reimburse Carrier B one sixth of the cost, so that each carrier has now paid one third of the cost.

[16] Assume that Carrier A pays initially to condition a loop and provides DSL over that loop for one year. Carrier A then loses the customer to Carrier B, which provides DSL over the loop for only 6 months before losing the customer to Carrier C. Carrier C provides DSL for 3 years. What portion of the conditioning costs should each carrier bear? When would those costs be evaluated—when a carrier begins its lease of the loop, or when it completes its lease?

Third, a cost sharing arrangement would require that Verizon track not only when the loop was conditioned, by whom and how much was paid in non-recurring charges, but also how the loop is being used by subsequent carriers. We do not believe that Verizon is entitled to that kind of information about a competitor's customers. Verizon would also need to be able to track former carriers so as to reimburse them if future carriers benefit. This could be quite challenging if any of the carriers ceases to lease loops through Verizon or goes bankrupt.

In addition, any workable cost sharing arrangement would have to give the carriers enough information on which to base the decision of whether to provide service to a customer. So a carrier would have to be able to find out if the loop had been conditioned at some point, as well as how much its "share" of the cost of prior conditioning would now be. Doubtless there are additional questions we have not even begun to address.

Perhaps equally important, we are not convinced that a cost sharing arrangement would be useful in this instance. As we described above, AT&T and MCI have developed non-recurring conditioning costs based on the tasks and task times presented in the AT&T/WorldCom Panel Reply[17] and the assumptions

---

[17] AT&T/WorldCom Panel Reply on Non-Recurring Costs and Advanced Data Services at 152-157 and Attachment A.

ordered by the Bureau.[18] AT&T/MCI's compliance filing shows a total cost of $372.19 for the removal of load coils on loops over 18,000 feet and a total cost of $48.01 for removal of a single occurrence of bridged tap.[19] These non-recurring charges reflect the Bureau's determination that loops will be conditioned one at a time. Although significantly below those proposed by Verizon in this proceeding, the charges presented in the AT&T/MCI compliance filing are still sufficiently high so as to deter competitors from ordering loop conditioning services on loops that require it.

Given this level of conditioning charges, we do not believe that competitors will order loop conditioning, particularly load coil removal, at all. They will instead choose not to serve potential customers whose loops would require such expensive conditioning. In addition, the phase-out of line sharing arrangements directed by the Commission's *Triennial Review Order*[20] is likely to reduce the overall incidence of competitors ordering loops from Verizon to provide DSL. In light of this situation and the relative complexity of any possible cost sharing system, we do not believe it is practical or constructive to implement

---

[18] *Order* at ¶¶ 639-644.

[19] *See* Exhibit 3.

[20] *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers* (CC Docket No. 01-338); *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996* (CC Docket No. 96-989); *Deployment of Wireline Services Offering Advanced Telecommunications Capability* (CC Docket No. 98-147), FCC No. 03-36, (rel. Aug. 21, 2003) at ¶ 264.

a cost sharing program. Therefore, AT&T and MCI are not presenting a proposal for conditioning cost sharing or its implementation.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Exhibit 1

Manual Loop Qualification

Assumptions
Source of assumptions: AT&T/WCom NRC Panel Reply (at p. 168), unless otherwise noted
Labor charged at the rate for FMAC (Source for Rate: **AT&T/WCom NRCM Input Records, General Labor Rates**)

Step No.	Step Description	Time (minutes)	Probability	Labor Rate ($/hour)	Cost without Overhead
501	(Engineering clerk) Pull and analyze order, pull loop makeup information manually and transmit that information to competitor.	30	100%	$47.25	$23.63
	Total Cost (without overhead)				**$23.63**

Engineering Query

Assumptions
Source of assumptions: AT&T/WCom NRC Panel Reply (at p. 168), unless otherwise noted
Labor charged at the rate for FMAC (Source for Rate: **AT&T/WCom NRCM Input Records, General Labor Rates**)

Step No.	Step Description	Time (minutes)	Probability	Labor Rate ($/hour)	Cost without Overhead
501	(Engineering) Pull and analyze order, pull loop makeup information manually and transmit that information to competitor.	30	100%	$47.25	$23.63
	Total Cost (without overhead)				**$23.63**

Load Coil Removal from Loops Greater than 18,000 feet

Assumptions

Source of assumptions: Attachment A to AT&T/WCom NRC Panel Reply (para. 11) , unless otherwise noted

Remove load coils from 3 locations on loop, on average
- 2 locations in underground and 1 location in aerial/buried (50% probability each)

Underground work requires 2 technicians; aerial or buried requires only 1

Remove coils from one pair at a time (**Virginia Arbitration Order at para 641**)
- Steps listed in Attachment A para. 11 assumed conditioning of multiple loops at a time; therefore, steps unnecessary for conditioning a single loop have been removed.
- Times for certain steps are conservatively high, because they were not adjusted downward to reflect conditioning a single loop. Alternate times are provided for comparison.

Labor charged at the rate for Splicing Tech (Source for Rate: **AT&T/WCom NRCM Input Records, General Labor Rates**)

Step No.	Step Description	Time (minutes) from Att. A	Time (minutes) w/ adjustment (for comparison)	No. of Technicians	No. of Locations (Probability)	Total Time (minutes)	No. of Pairs at a Time	Time per Pair (minutes)	Labor Rate ($/hour)	Cost without Overhead
	Underground Cable Load Coil Removal in a Manhole (per location)									
601	Travel time to underground splice location.	20	20	2	2	80	1	80	$48.94	$65.25
602	Set up work area protection and underground work site.	5	5	2	2	20	1	20	$48.94	$16.31
603	Pump and ventilate manhole.	15	15	2	2	60	1	60	$48.94	$48.94
604	Buffer cable / Rerack cable / set up splice.	5	5	2	2	20	1	20	$48.94	$16.31
605	Open splice case.	5	5	2	2	20	1	20	$48.94	$16.31
606	Identify pair to be deloaded.	5	2	2	2	20	1	20	$48.94	$16.31
607	Remove / sever connection from main cable to load 'in' & 'out' taps.	3	0.5	2	2	12	1	12	$48.94	$9.79
608	Rejoin / splice pair through main cable.	5	0.5	2	2	20	1	20	$48.94	$16.31
609	Clean, reseal, and close splice case.	10	10	2	2	40	1	40	$48.94	$32.63
610	Rack cables, pressure test cables in manhole.	10	10	2	2	40	1	40	$48.94	$32.63
611	Close down manhole, stow tools, break down work area protection.	10	10	2	2	40	1	40	$48.94	$32.63
	Aerial Cable Load Coil Removal at a Pole (per location -- 50% probability of occurrence)									
612	Travel time to aerial splice location from underground splice location.	10	10	1	0.5	5	1	5	$48.94	$4.08
613	Set up work area protection.	5	5	1	0.5	2.5	1	2.5	$48.94	$2.04
614	Set up ladder or bucket truck.	10	10	1	0.5	5	1	5	$48.94	$4.08
605	Open splice case.	5	5	1	0.5	2.5	1	2.5	$48.94	$2.04
615	Identify PIC pair to be deloaded.	2	1	1	0.5	1	1	1	$48.94	$0.82
607	Remove / sever connection from main cable to load 'in' & 'out' taps.	3	0.5	1	0.5	1.5	1	1.5	$48.94	$1.22
608	Rejoin / splice pair through main cable.	5	0.5	1	0.5	2.5	1	2.5	$48.94	$2.04
609	Clean, reseal, and close splice case.	10	10	1	0.5	5	1	5	$48.94	$4.08
616	Secure splice case to strand and clean up work area.	10	10	1	0.5	5	1	5	$48.94	$4.08
617	Close down aerial site, stow tools, break down work area protection.	10	10	1	0.5	5	1	5	$48.94	$4.08
	Buried Cable Load Coil Removal at a Pedestal (per location -- 50% probability of occurrence)									
618	Travel time to buried splice location from underground splice location.	10	10	1	0.5	5	1	5	$48.94	$4.08
619	Set up traffic cone at rear bumper of truck.	1	1	1	0.5	0.5	1	0.5	$48.94	$0.41
620	Walk to site & open splice pedestal.	2	2	1	0.5	1	1	1	$48.94	$0.82
615	Identify PIC pair to be deloaded.	2	1	1	0.5	1	1	1	$48.94	$0.82
607	Remove / sever connection from main cable to load 'in' & 'out' taps.	3	0.5	1	0.5	1.5	1	1.5	$48.94	$1.22
608	Rejoin / splice pair through main cable.	5	0.5	1	0.5	2.5	1	2.5	$48.94	$2.04
621	Secure splice within buried pedestal and clean up work area.	3	3	1	0.5	1.5	1	1.5	$48.94	$1.22
622	Close down buried site, stow tools and traffic cone.	5	5	1	0.5	2.5	1	2.5	$48.94	$2.04
	Total Cost (without overhead)							422.5		**$344.62**

Bridged Tap Removal - Single Occurrence

Assumptions

Source of assumptions: Attachment A to AT&T/WCom NRC Panel Reply (para. 12), unless otherwise noted

Charge applies only when the tap does not exceed 2,500 feet, with no single tap longer than 2,000 feet (**Virginia Arbitration Order at para. 642**)

Remove bridged tap from a single location on loop

- Bridged tap should not occur in underground (near central office)
- 50% probability each that bridged tap will be in aerial or buried

Aerial or buried work requires only 1 technician

Remove bridged tap from one pair at a time (**Virginia Arbitration Order at para. 642**)

- Steps listed in Attachment A para. 11 assumed conditioning of multiple loops at a time; therefore, steps unnecessary for conditioning a single loop have been removed.
- Times for certain steps are conservatively high, because they were not adjusted downward to reflect conditioning a single loop. Alternate times are provided for comparison.

Labor charged at the rate for Splicing Tech (Source for Rate: **AT&T/WCom NRCM Input Records, General Labor Rates**)

Step No.	Step Description	Time (minutes) from Att. A	Time (minutes) w/ adjustment (for comparison)	No. of Technicians	No. of Locations (Probability)	Total Time (minutes)	No. of Pairs at a Time	Time per Pair (minutes)	Labor Rate ($/hour)	Cost without Overhead
	Aerial Cable Bridged Tap Removal at a Pole (50% probability of occurrence)									
623	Travel time to aerial splice location.	20	20	1	0.5	10	1	10	$48.94	$8.16
613	Set up work area protection.	5	5	1	0.5	2.5	1	2.5	$48.94	$2.04
614	Set up ladder or bucket truck.	10	10	1	0.5	5	1	5	$48.94	$4.08
605	Open splice case.	5	5	1	0.5	2.5	1	2.5	$48.94	$2.04
624	Identify PIC pair for bridged tap removal.	2	0.5	1	0.5	1	1	1	$48.94	$0.82
625	Remove bridging modules or cut & clear pair.	2	0.5	1	0.5	1	1	1	$48.94	$0.82
609	Clean, reseal, and close splice case.	10	10	1	0.5	5	1	5	$48.94	$4.08
616	Secure splice case to strand and clean up work area.	10	10	1	0.5	5	1	5	$48.94	$4.08
617	Close down aerial site, stow tools, break down work area protection.	10	10	1	0.5	5	1	5	$48.94	$4.08
	Buried Cable Bridged Tap Removal at a Pedestal (50% probability of occurrence)									
626	Travel time to buried splice location.	20	20	1	0.5	10	1	10	$48.94	$8.16
619	Set up traffic cone at rear bumper of truck.	1	1	1	0.5	0.5	1	0.5	$48.94	$0.41
620	Walk to site & open splice pedestal.	2	2	1	0.5	1	1	1	$48.94	$0.82
624	Identify PIC pairs for bridged tap removal.	2	0.5	1	0.5	1	1	1	$48.94	$0.82
625	Remove bridging modules or cut & clear pair.	2	0.5	1	0.5	1	1	1	$48.94	$0.82
621	Secure splice within buried pedestal and clean up work area.	3	3	1	0.5	1.5	1	1.5	$48.94	$1.22
622	Close down buried site, stow tools and traffic cone.	5	5	1	0.5	2.5	1	2.5	$48.94	$2.04
	Total Cost (without overhead)							54.5		**$44.45**

Engineering Work Order

Assumptions

Source of assumptions: Attachment A to AT&T/WCom NRC Panel Reply (paras. 24-25), unless otherwise noted

Tasks and times should be based on forward-looking processes

Condition one pair at a time (**Virginia Arbitration Order at paras. 641-2**)

Applies once per service order (**Virginia Arbitration Order at paras. 643**)

Labor charged at the rate for FMAC (Source for Rate: **AT&T/WCom NRCM Input Records, General Labor Rates**)

Step No.	Step Description	Time (minutes)	Probability	Total Time (minutes)	No. of Pairs at a Time	Time per Pair (minutes)	Labor Rate ($/hour)	Cost without Overhead
701	Design work requirement (e.g., remove bridged tap(s), remove load coils) after research of cable plat(s); draw schematic of work required including outside plant locations.	10	100%	10	1	10	$47.25	$7.88
702	Update LFACS and LIVEWIRE.	5	100%	5	1	5	$47.25	$3.94
703	Send copies of engineering work order to Construction and Accounting.	5	100%	5	1	5	$47.25	$3.94
704	Receive completion notice from Construction and final post the work order on the cable plat(s).	10	100%	10	1	10	$47.25	$7.88
	Total Cost (without overhead)					30		**$23.63**

Line Sharing - Connect

Assumptions

Source of assumptions: AT&T/WCom NRCM (UNE Loop Connect), unless otherwise noted

Line sharing is ordered only on working line (**AT&T/WCom NRC Panel Reply at 121**)

Install two cross connects (jumpers) and remove one jumper (**AT&T/WCom NRC Panel Reply at 119**)

Labor charged at the rate for FCC and LAC (Source for rates: **AT&T/WCom NRCM Input Records, General Labor Rates**)

Step No.	Step Description	Time (minutes)	Probability	Labor Rate ($/hour)	Cost without Overhead
47	***Pull and Analyze Order Steps***				
48	Pull and analyze order: FCC; (copper%)	2.5	100%	$40.66	$1.69
55	***Travel Time Steps***				
56	Travel time to the central office: CO non staffed, # orders per trip, Copper	20	5%	$40.66	$0.68
71	***Element Type Detail Steps***				
74	Install cross connect from MDF to CFA appearance	1	100%	$40.66	$0.68
74	Install cross connect from MDF to CFA appearance	1	100%	$40.66	$0.68
79	Remove jumper from MDF	0.5	100%	$40.66	$0.34
76	Perform continuity test (check dial tone and ANI)	0.25	100%	$40.66	$0.17
198	***Fall Out Steps***				
203	Fall Out: Pull and analyze order: LAC	2.5	2%	$40.66	$0.03
204	Fall Out: Resolve fallout: LAC	15	2%	$40.66	$0.20
209	***Close Order Steps***				
210	Close order: FCC:Copper%	1.5	100%	$40.66	$1.02
	Total Cost (without overhead)				**$5.49**

Line Sharing - Disconnect

Assumptions

Source of assumptions: AT&T/WCom NRCM (UNE Loop Disconnect), unless otherwise noted

Remove two jumpers (cross connects) and install one cross connect (**AT&T/WCom NRC Panel Rebuttal at 119**)

Labor charged at the rate for FCC and LAC (Source for rates: **AT&T/WCom NRCM Input Records, General Labor Rates**)

Step No.	Step Description	Time (minutes)	Probability	Labor Rate ($/hour)	Cost without Overhead
47	***Pull and Analyze Order Steps***				
48	Pull and analyze order: FCC; (copper%)	2.5	100%	$40.66	$1.69
55	***Travel Time Steps***				
56	Travel time to the central office: CO non staffed, # orders per trip, Copper	20	5%	$40.66	$0.68
71	***Element Type Detail Steps***				
79	Remove jumper from MDF	0.5	100%	$40.66	$0.34
79	Remove jumper from MDF	0.5	100%	$40.66	$0.34
74	Install cross connect from MDF to CFA appearance	1	100%	$40.66	$0.68
76	Perform continuity test (check dial tone and ANI)	0.25	100%	$40.66	$0.17
198	***Fall Out Steps***				
203	Fall Out: Pull and analyze order: LAC	2.5	2%	$40.66	$0.03
204	Fall Out: Resolve fallout: LAC	15	2%	$40.66	$0.20
209	***Close Order Steps***				
210	Close order: FCC:Copper%	1.5	100%	$40.66	$1.02
	Total Cost (without overhead)				**$5.15**

Exhibit 2 Electronic Model Cannot be printed

Exhibit 3

	Virginia - Verizon - NRC Elements	Total Cost
1	POTS / ISDN BRI Migration (TSR)	0.26
2	POTS / ISDN BRI Install (TSR)	0.26
3	POTS / ISDN BRI Migration (UNE Platform)	0.26
4	POTS / ISDN BRI Install (UNE Platform)	0.26
5	POTS / ISDN BRI Disconnect (TSR / UNE Platform)	0.26
6	POTS / ISDN BRI Migration (UNE Loop)	5.01
7	POTS / ISDN BRI Install (UNE Loop)	4.83
8	POTS / ISDN BRI Disconnect (UNE Loop)	4.28
9	Feature Changes	0.26
10	4 Wire Migration (UNE Loop)	26.92
11	4 Wire Install (UNE Loop)	26.92
12	4 Wire Disconnect (UNE Loop)	19.43
13	2 Wire Migration at the FDI	22.58
14	2 Wire Disconnect at the FDI	21.73
15	4 Wire Migration at the FDI	61.57
16	4 Wire Disconnect at the FDI	37.61
17	2 Wire Migration at 6 line NID	41.89
18	Channelized DS1 Virtual Feeder to RT Install	19.20
19	Channelized DS1 Virtual Feeder to RT Disconnect	14.95
20	DS1 Interoffice Transport Install	8.14
21	DS1 Interoffice Transport Disconnect	0.49
22	DS3 Interoffice Transport Install	8.14
23	DS3 Interoffice Transport Disconnect	0.49
24	2 Wire Loop, different CO Migration	28.68
25	2 Wire Loop, different CO Install	14.36
26	2 Wire Loop, different CO Disconnect	12.38
27	4 Wire Loop, different CO Migration	29.56
28	4 Wire Loop, different CO Install	15.46
29	4 Wire Loop, different CO Disconnect	14.58
30	DS1 Loop to Customer Premise Migration	36.88
31	DS1 Loop to Customer Premise Install	27.19
32	DS1 Loop to Customer Premise Disconnect	19.41
33	DS3 Loop to Customer Premise Migration	33.42
34	DS3 Loop to Customer Premise Install	19.32
35	DS3 Loop to Customer Premise Disconnect	10.85
36	Line Port (DS0, Analog, ISLU) Install	4.65
37	Line Port (DS0, Analog, ISLU) Disconnect	4.28
38	Channelized DS1 line port (TR-303-IDT) Install	19.20
39	Channelized DS1 line port (TR-303-IDT) Disconnect	14.13
40	Fiber Cross Connects Install (LGX)	9.36
41	Fiber Disconnect (LGX)	10.24
42	SS7 Links (DS0) Install	30.44
43	SS7 Links (DS0) Disconnect	13.70
44	SS7 Links (DS1) Install	23.97
45	SS7 Links (DS1) Disconnect	7.38

46	SS7 STP global title translations 'A Link' only Install	30.26
47	SS7 STP global title translations 'A Link' only Disconnect	30.26
48	SS7 STP message transfer part 'A Link' only (port) Install	21.45
49	SS7 STP message transfer part 'A Link' only (port) Disconnect	20.57
50	Line Sharing - Install	5.93
51	Line Sharing - Disconnect	5.56
52	Manual Loop Qualification	25.51
53	Engineering Query	25.51
54	Engineering Work Order	25.51
55	Load Coil Removal	372.19
56	Bridged Tap Removal	48.01